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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,355	06/09/2005	Klaus K Nielsen	0147-0262PUS1	5659

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EXAMINER	
BAUM, STUART F	

ART UNIT	PAPER NUMBER
1638	

NOTIFICATION DATE	DELIVERY MODE
01/02/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/507,355	NIELSEN ET AL.	
	Examiner	Art Unit	
	Stuart F. Baum	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *65-85* is/are pending in the application.

4a) Of the above claim(s) *67 and 81-85* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *65,66 and 68-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 65-85 are pending.

2. Applicant's election with traverse of Group I, claims 65-66 and 68-80 in the reply filed on 5/23/2007 is acknowledged. The traversal is on the ground(s) that a search of the polynucleotide and polypeptide significantly overlap (page 13 of Remarks, bottom paragraph). Applicants requested that the claims of Group I and II be rejoined because the claims are drawn to a method of reducing or preventing flowering in a plant by expressing the polynucleotides of the invention (page 14 of Remarks, top paragraph).

This is not found persuasive because while a search of the polynucleotide may overlap with a search of the polypeptide, they are not co-extensive of each other and thus would be a burden on the Office. The Office contends a search of the polynucleotides of Group I, would not encompass a search of the polynucleotides of Group II because the polynucleotides of Group II include specific regions of SEQ ID NO:2 that are not included in the polynucleotides of Group I and polynucleotides of Group I include regions of SEQ ID NO:2 that are not included in the polynucleotides of Group II.

The requirement is still deemed proper and is therefore made FINAL.

Claims 67 and 81-85 are withdrawn from consideration for being drawn to non-elected inventions.

3. Claims 65-66 and 68-80, including the coding sequence of SEQ ID NO:1 or 2 which encodes SEQ ID NO:3, are examined in the present office action.

Specification /Priority

4. Objection is made to the specification for improperly claiming the benefit of a provisional application. 37 CFR 1.78(a)(5)(i) requires that any nonprovisional application or international application designating the United States of America claiming the benefit of one or more prior-filed provisional applications must contain or be amended to contain a reference to each such prior-filed provisional application, identifying it by the provisional application number (consisting of series code and serial number). Amending the first paragraph of the specification to recite "This application is the National Stage of International Application No. PCT/EP03/02629, filed 3/10/2003, which claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application 60/363,125, filed 3/11/2002" will obviate the objection.

Sequence Rules

5. Objection is made to the specification for not incorporating SEQ ID NO's when referring to nucleic acid or amino acid sequences. 37 CFR 1.821(d) requires the use of the assigned sequence identifier (e.g. SEQ I.D. NO: X) in all instances where the description or claims of a patent application discuss sequences. In the instant application, Figure 5b contains 12 amino acid sequences which are not identified by sequence identifier. Amending the Figure or the Brief Description of the Drawings with sequence identifiers will obviate the objection.

Full compliance with the sequence rules is required in response to this Office action. A complete response to this Office action must include both compliance with the sequence rules and a response to the issues set forth herein. Failure to fully comply with both of these requirements in the time period set forth in this Office action will be held to be non-responsive.

Written Description
Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 65-66 and 68-80 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a method of reducing or preventing flowering in a plant comprising expressing a polynucleotide comprising a fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like activity, or comprises a nucleotide sequence encoding a functionally active fragment, derivative or homologue of SEQ ID NO:3 and which has LpTFL1-like activity, or a nucleotide sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3, or wherein the polynucleotide sequence has any of the percent identities listed in claim 66; or wherein the encoded polypeptide includes the sequence YESP(K/R) located between residues about 100 and about 120 of SEQ ID NO:3; or transgenic plant transformed with said polynucleotide.

The Office interprets "specifically hybridizes" to mean under any conditions because Applicants do not explicitly state any hybridization conditions.

The Office interprets "LpTFL1-like activity" to mean any activity because Applicants do not define this term.

Applicants state "To isolate plant PEBP genes from ryegrass, a set of primers partially homologous to TFL1 of Arabidopsis, CEN of Antirrhinum, and a rice EST were designed" (page 29, 1st full paragraph). Applicants disclose that a 180 bp fragment was isolated by PCR which was subsequently used to isolate a cDNA that exhibited similarity to TFL1 and CEN, and was named LpTFL1, whose sequence is set forth in SEQ ID NO:1. A genomic clone was isolated and the sequence is set forth in SEQ ID NO:2 (page 29, "Screening of cDNA and Genomic Library"). Applicants disclose that not all members of the PEBP gene family have the same activity in relation to floral control (page 3, lines 15-17).

The Applicants do not identify essential regions of LpTFL1 protein encoded by SEQ ID NO:1 or 2, nor do Applicants describe any polynucleotide sequences that hybridize under any conditions to SEQ ID NO:1 or 2 or to a polynucleotide encoding SEQ ID NO:3 and which encodes a protein with the same activity and function as the protein of SEQ ID NO:3.

The Federal Circuit has recently clarified the application of the written description requirement to inventions in the field of biotechnology. See University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In summary, the court stated that a written description of an invention requires a precise definition, one that defines the structural features of the chemical genus that distinguishes it from other chemical structures. A definition by function does not suffice to define the genus because it is only an indication of

what the gene does, rather than what it is. The court goes on to say, "A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus." *See University of California v. Eli Lilly and Co.*, 119 F.3d 1559; 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Applicants fail to describe a representative number of polynucleotide sequences encoding a LpTFL1 protein of SEQ ID NO:3 falling within the scope of the claimed genus of polynucleotides which hybridize under any conditions to SEQ ID NO:1 or 2 and have any activity or any functionally active fragments of a polypeptide encoded by SEQ ID NO:1 or 2 and have any activity. Applicants only describe a single cDNA and genomic sequence of SEQ ID NO:1 and 2, respectively. Furthermore, Applicants fail to describe structural features common to members of the claimed genus of polynucleotides. Hence, Applicants fail to meet either prong of the two-prong test set forth by *Eli Lilly*. Furthermore, given the lack of description of the necessary elements essential for the LpTFL1 protein; it remains unclear what features identify a ryegrass LpTFL1 protein of SEQ ID NO:3. Since the genus of LpTFL1 proteins has not been described by specific structural features, the specification fails to provide an adequate written description to support the breath of the claims.

Scope of Enablement

7. Claims 65-66 and 68-80 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for SEQ ID NO:1 or 2 encoding SEQ ID NO:3 and plant transformation therewith and method of reducing or preventing flowering comprising expressing SEQ ID NO:1 or 2 or a polynucleotide encoding SEQ ID NO:3 in a plant, does not reasonably provide enablement for any polynucleotide exhibiting less than 100% sequence identity to SEQ ID NO:1 or 2 or to a polynucleotide encoding a protein exhibiting less than 100% identity to SEQ ID NO:3 and plant transformation therewith and method of reducing or preventing flowering comprising said polynucleotide. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claimed invention is not supported by an enabling disclosure taking into account the *In re Wands* factors (858F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988). *In re Wands* lists a number of factors for determining whether or not undue experimentation would be required by one skilled in the art to make and/or use the invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claim.

The claims are drawn to a method of reducing or preventing flowering in a plant comprising expressing a polynucleotide comprising a fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like

activity, or comprises a nucleotide sequence encoding a functionally active fragment, derivative or homologue of a protein of SEQ ID NO:3 and which has LpTFL1-like activity, or a nucleotide sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3, or wherein the polynucleotide sequence has any of the percent identities listed in claim 66; or wherein the encoded polypeptide includes the sequence YESP(K/R) located between residues about 100 and about 120 of SEQ ID NO:3; or transgenic plant transformed with said polynucleotide.

The Office interprets "specifically hybridizes" to mean under any conditions because Applicants do not explicitly state any hybridization conditions.

The Office interprets "LpTFL1-like activity" to mean any activity because Applicants do not define this term.

Applicants state "To isolate plant PEBP genes from ryegrass, a set of primers partially homologous to TFL1 of Arabidopsis, CEN of Antirrhinum, and a rice EST were designed" (page 29, 1st full paragraph). Applicants disclose that a 180 bp fragment was isolated by PCR which was subsequently used to isolate a cDNA that exhibited similarity to TFL1 and CEN, and was named LpTFL1, whose sequence is set forth in SEQ ID NO:1. A genomic clone was isolated and the sequence is set forth in SEQ ID NO:2 (page 29, "Screening of cDNA and Genomic Library"). Applicants disclose that not all members of the PEBP gene family have the same activity in relation to floral control (page 3, lines 15-17). Applicants disclose operably linking the ubiquitin promoter to the coding region of LpTFL1, and Arabidopsis transformation therewith (page 32, bottom paragraph). The transformed Arabidopsis plants exhibited a delay in

flowering compared to wild type plants (*Ibid*). Applicants disclose that some of the transgenic plants failed to produce flowers before they senescenced and died (page 33, top paragraph). Applicants disclose ryegrass transformed with said construct produced plants that exhibited a delayed flowering (page 43, top paragraph). Applicants disclose red fescue lines transformed with said LpTFL1 construct flowered at least two weeks later than the wild-type controls (page 51, bottom paragraph).

The state-of-the-art is such that one of skill in the art cannot predict which nucleic acids that are fragments, derivatives, homologues, functionally active fragments, sequences that hybridize to SEQ ID NO:1or 2 or to polynucleotides that encode SEQ ID NO:3 or nucleotide sequences having 65% identity thereto, will encode a protein with the same activity as a protein encoded by SEQ ID NO:1 or 2. The prediction of protein structure from sequence data and, in turn, utilizing predicted structural determinations to ascertain functional aspects of the protein, is extremely complex, and the positions within the protein's sequence where amino acid substitutions can be made with a reasonable expectation of maintaining function are limited (Bowie et al, Science 247:1306-1310, 1990, see especially page 1306). Proteins may be sensitive to alterations in even a single amino acid in a sequence. For example, the replacement of a glycine residue located within the START domain of either the PHABULOSA or PHAVOLUTA protein receptor with either an alanine or aspartic acid residue, alters the sterol/lipid binding domain (McConnell et al, Nature 411 (6838):709-713, 2001, see especially page 710, left column, 2nd paragraph).

Applicants disclose that even within the group of plant PEBP genes, there are gene members that do not produce the expected result. Applicants disclose that eleven amino acid

residues in the plant PEBP sequences have so far been identified as essential for a functional protein (paragraph bridging pages 36 and 37). Applicants disclose that LpTFL1 differs from the consensus at one position (110), which is also the position with the highest degree of amino acid variation between species. The members of the PEBP fall into three groups based on the amino acid at this position and not all members produce the same effect when transformed into a plant (page 37, top paragraph). Therefore, the Office contends that Applicants have not disclosed explicitly which amino acids are required to produce a polypeptide that when over expressed in a plant produces the claimed phenotype.

Given the specific amino acid sequence that is required for producing the claimed phenotype, Applicants have not disclosed how one makes or isolates any of the sequences that are encompassed by Applicants' broad claims. Applicants have not taught which regions of the respective polynucleotides can be used to amplify any of said polynucleotides or which regions can be used as a probe to isolate any of said polynucleotide sequences.

In the absence of guidance, undue trial and error experimentation would be required for one of ordinary skill in the art to screen through the multitude of non-exemplified sequences, either by using non-disclosed fragments of SEQ ID NO:1 or 2 as probes or by designing primers to undisclosed regions of SEQ ID NO:3 and isolating or amplifying fragments, subcloning the fragments, producing expression vectors and transforming plants therewith, in order to identify those, if any, that when over-expressed produce plants with a delayed flowering and wherein the.

Therefore, given the breadth of the claims; the lack of guidance and examples; the unpredictability in the art; and the state-of-the-art as discussed above, undue experimentation would be required to practice the claimed invention, and therefore the invention is not enabled.

If the claims are enabled, then the following art rejections are set forth.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 65, 71, 73, 75-76 and 79 are rejected under 35 U.S.C. 102(b) as being anticipated by Ratcliffe et al (1998, Development 125:1609-1615) taken with the evidence of Applicants' own admitted statement.

The claims are drawn to a method of reducing or preventing flowering in a plant comprising expressing a polynucleotide comprising a fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like activity, or comprises a nucleotide sequence encoding a functionally active fragment, derivative or homologue of a protein of SEQ ID NO:3 and which has LpTFL1-like activity, or a nucleotide sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3; or wherein the polynucleotide is operably linked to the 35S promoter, or a transgenic plant transformed with said polynucleotide or wherein the plant is a vegetable brassicas.

The Office interprets "specifically hybridizes" to mean under any conditions because Applicants do not explicitly state any hybridization conditions.

The Office interprets "LpTFL1-like activity" to mean any activity because Applicants do not define this term.

Ratcliffe et al disclose the Arabidopsis TFL1 cDNA sequence operably linked to the CaMV 35S promoter and Arabidopsis transformation therewith (page 1610, right column, "Material and Methods"). Ratcliffe et al disclose that the transformed Arabidopsis plants exhibited a delay in flowering as compared to wild-type plants (page 1612, "Timing of growth phases in the 35STFL1 lines", and Abstract). The Office contends the TFL1 sequence of Ratcliffe et al encompasses fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like activity and also encompasses a functionally active fragment, derivative or homologue of a protein of SEQ ID NO:3 and which has LpTFL1-like activity, and encompasses a nucleotide sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3, because Applicants disclose that LpTFL1 shows 71% identity to TFL1 (see page 36 of specification, lines 3-4). The Office contends Arabidopsis is a vegetable Brassica and as such, Ratcliffe et al anticipate the claimed invention.

9. Claims 65, 68, 71, 73, 75-76 and 79 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al (2001, Plant Physiology 125:1517-1528).

The claims are drawn to a method of reducing or preventing flowering in a plant comprising expressing a polynucleotide comprising a fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like activity, or comprises a nucleotide sequence encoding a functionally active fragment, derivative or homologue of a protein of SEQ ID NO:3 and which has LpTFL1-like activity, or a nucleotide

sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3, or wherein the polypeptide encoded by said polynucleotide fragment includes the sequence YESP(K/R); or wherein the polynucleotide is operably linked to the 35S promoter, or a transgenic plant transformed with said polynucleotide or wherein the plant is a vegetable brassicas.

The Office interprets "specifically hybridizes" to mean under any conditions because Applicants do not explicitly state any hybridization conditions.

The Office interprets "LpTFL1-like activity" to mean any activity because Applicants do not define this term.

Jensen et al disclose a nucleic acid sequence encoding the LpTFL1 protein operably linked to the Ubiquitin promoter and transformed into Arabidopsis (page 1527, paragraph bridging left and right columns). Jensen et al disclose that transformed Arabidopsis plants exhibited delayed flowering. The Office contends the LpTFL1 protein of Jensen et al is the same as Applicants' LpTFL1 because both proteins are from *Lolium perenne*. Jensen et al disclose the LpTFL1 protein comprises the sequence YESP(K/R) and as such, Jensen et al anticipate the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 65-66 and 68-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al (2001, Plant Physiology 125:1517-1528).

The claims are drawn to a method of reducing or preventing flowering in a plant comprising expressing a polynucleotide comprising a fragment, derivative or homologue of the coding sequence of SEQ ID NO:1 or 2 which encodes a polypeptide having LpTFL1-like activity, or comprises a nucleotide sequence encoding a functionally active fragment, derivative or homologue of a protein of SEQ ID NO:3 and which has LpTFL1-like activity, or a nucleotide sequence that specifically hybridizes with SEQ ID NO:1 or 2, or with a nucleotide sequence encoding SEQ ID NO:3, or a polynucleotide sequence having at least 65% identity with SEQ ID NO:1 or 2 or with a nucleotide sequence encoding SEQ ID NO:3, or wherein the polypeptide encoded by said polynucleotide fragment includes the sequence YESP(K/R); or wherein the polynucleotide is operably linked to the 35S promoter, or a transgenic plant transformed with said polynucleotide or wherein the plant is a vegetable brassicas, or wherein the plant is a biennial or perennial or a monocot, or wherein the polynucleotide exhibits any of the percent identities listed in claim 66.

The Office interprets "specifically hybridizes" to mean under any conditions because Applicants do not explicitly state any hybridization conditions.

The Office interprets "LpTFL1-like activity" to mean any activity because Applicants do not define this term.

The teachings of Jensen et al have been discussed above.

Jensen et al do not teach a biennial, perennial or monocot plant, or a nucleic acid exhibiting any of the percent identities listed in claim 66.

Given the recognition of those of ordinary skill in the art the value of prolonging the vegetative phase of a plant as taught by Jensen et al (page 1523, right column, bottom paragraph), and given the success of Jensen et al of prolonging the vegetative phase of Arabidopsis by transforming an Arabidopsis plant with a construct comprising a nucleic acid molecule encoding the LpTFL1 protein operably linked to the ubiquitin promoter, one of ordinary skill in the art would be motivated to isolate other nucleic acid molecules encoding homologues of the LpTFL1 gene, and to use these sequences to delay flowering in plants. The Office contends choosing one type of plant over another (i.e., a biennial, perennial or monocot) is not a patentable distinction and choosing a sequence with any one of the percent identities listed in claim 66 is merely a design choice and is not a critical parameter.

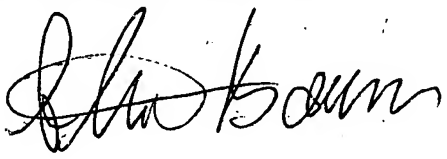
Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

11. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stuart F. Baum Ph.D.
Primary Examiner
Art Unit 1638
December 17, 2007

STUART F BAUM, PH.D
PRIMARY EXAMINER